REMARKS

Claims 1-30 are pending and are rejected. Claims 1, 12, and 29 are amended. Reconsideration and allowance of Claims 1-30 are respectfully requested.

Objection to Specification

The Title is objected to. In response, the Title is amended accordingly.

Amendments to Claims

Claims 1, 12, and 29 are amended to more clearly recite that which Applicant regard as the invention, and to place the application in better condition for allowance. No new matter is added, and these are not narrowing amendments.

Claim Rejections under 35 USC §103 over Pereira and Kaganoi

Claims 1-4, 6-9, 11-13, 16-17, 19-20, and 22-30 are rejected under 35 USC §103(a) as being unpatentable over Pereira (USP 6,324,087) in view of Kaganoi (USP 7,095,742). Applicant respectfully traverses these rejections.

Independent Claim 1

Applicant's Claim 1 recites (as amended):

A content addressable memory (CAM) device for comparing a search key to data values stored therein, comprising:

a plurality of CAM blocks, each including an array of CAM cells to store a predetermined range of data values;

means for extracting a selected portion of the search key in response to a select signal; and

means for selectively enabling each CAM block in response to a comparison between the selected portion of the search key and the predetermined range of data values that are stored in the corresponding CAM block.

First, neither Pereira nor Kaganoi, whether taken individually or in combination, disclose or suggest "means for extracting a selected portion of the search key in

response to a select signal," as recited in Applicant's Claim 1. The Office Action acknowledges that Pereira "fails to teach means for extracting a selected portion of the search key in response to a select signal," and asserts that "Kaganoi teaches means for extracting a selected portion of the search key in response to a select signal." Applicant disagrees.

As discussed in Applicant's previous response, Kaganoi's search key extracting circuit 12 simply extracts a *predetermined search key* from an incoming packet; it does NOT extract *a selected portion* of the search key *in response to a select signal*. Thus, in response to the Office Action's assertion that "there is no limitation in the claims...to define the scope of a select signal," Applicant points out that Kaganoi does not extract a *selected portion of the search key*, but rather extracts the *entire search key* from a packet. Accordingly, Kaganoi does not require the select signal recited in Applicant's Claim 1 because there is no portion of the search key to select: in contrast to Applicant's Claim 1, Kaganoi's extracting circuit 12 extracts the entire search key, not a portion of the search key.

Second, Pereira does not disclose or suggest "means for selectively enabling each CAM block in response to a comparison between the selected portion of the search key and the predetermined range of data values that are stored in the corresponding CAM block," as recited in Applicant's Claim 1. The Office Action seems to equate Pereira's "class code" with the "predetermined range of data values" that are stored in each CAM block recited in Applicant's Claim 1. However, Pereira's class code does NOT indicate a predetermined *range* of *data values* that are stored in each CAM block, as recited in Claim 1, but rather indicates what class or *type* of data is stored in the block. Indeed, Pereira describes "a class code indicating what class or type of data is stored in the block."[1]

Further, there is no language in Pereira that discloses or suggests storing a predetermined *range* of data values in each CAM block, as recited in Applicant's Claim 1. The Office Action seems to equate the address space listed in Pereira's Table 1 with the "predetermined range of data values" recited in Applicant's Claim 1. However, the address space listed in Pereira's Table 1 does NOT indicate a range of

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[1]   See Pereira, col. 1, lines 58-61.

data values that are *stored* in each CAM block, as recited in Claim 1, but rather indicates which *addresses are used to access the locations* of each CAM block (e.g., for read and write operations).

Therefore, because neither Pereira nor Kaganoi, whether taken alone or in combination, disclose or suggest "means for extracting a selected portion of the search key in response to a select signal" and "means for selectively enabling each CAM block in response to a comparison between the selected portion of the search key and the predetermined range of data values that are stored in the corresponding CAM block," as recited in Applicant's Claim 1, Claim 1 is patentable over the cited references.

Claims 2-11 depend from Claim 1 and therefore distinguish over the cited references for at least the same reasons as Claim 1.

Independent Claim 12

Applicant's Claim 12 recites (as amended):

A content addressable memory (CAM) device for comparing a search key to data stored therein, comprising:

a plurality of CAM blocks, each including an array of CAM cells to store a predetermined range of data values;

a parsing circuit having an input to receive the search key and having an output to provide a selected portion of the search key in response to a select signal; and

a plurality of block select circuits, each configured to enable a corresponding CAM block if the selected portion of the search key falls within the predetermined range of data values that are stored in the corresponding CAM block.

As discussed above with respect to Claim 1, neither Pereira nor Kaganoi disclose or suggest "means for extracting a selected portion of the search key in response to a select signal." Therefore, neither Pereira nor Kaganoi disclose or suggest "a parsing circuit having an input to receive the search key and having an output to provide a selected portion of the search key in response to a select signal," as recited in Applicant's Claim 12.

Further, as discussed above with respect to Claim 1, neither Pereira nor Kaganoi disclose or suggest "means for selectively enabling each CAM block in response to a comparison between the selected portion of the search key and the predetermined range of data values that are stored in the corresponding CAM block." Therefore, neither Pereira nor Kaganoi disclose or suggest "a plurality of block select circuits, each configured to enable a corresponding CAM block if the selected portion of the search key falls within the predetermined range of data values that are stored in the corresponding CAM block," as recited in Applicant's Claim 12.

Accordingly, Applicant's Claim 12 is patentable over the cited references.

Claims 13-23 depend from Claim 12 and therefore distinguish over the cited references for at least the same reasons as Claim 12.

Independent Claim 24

Applicant's Claim 24 recites:

A method of operating a content addressable memory (CAM) device including a plurality of CAM blocks each for storing a predetermined range of data values to be compared with a search key, comprising:

extracting a selected portion of the search key in response to a select signal; and

for each CAM block,

determining whether the selected portion of the search key falls within the predetermined range of data values stored in the CAM block; and

selectively enabling the CAM block in response to the determining.

As discussed above with respect to Claim 1, neither Pereira nor Kaganoi disclose or suggest "means for extracting a selected portion of a search key in response to a select signal," and therefore neither Pereira nor Kaganoi disclose or suggest "extracting a selected portion of the search key in response to a select signal," as recited in Applicant's Claim 24.

Further, as discussed above with respect to Claim 1, Pereira does not disclose or suggest "means for selectively enabling each CAM block in response to a

comparison between the selected portion of the search key and the predetermined range of data values that are stored in the corresponding CAM block." Indeed, Pereira's "class code" does NOT indicate a predetermined *range* of *data values* that are stored in each CAM block, but rather indicates what *type* of data is stored in the block. Thus, Pereira does NOT disclose or suggest "determining whether the selected portion of the search key falls within the predetermined range of data values stored in the CAM block," as recited in Applicant's Claim 24.

Accordingly, Applicant's Claim 24 is patentable over the cited references.

Claims 25-28 depend from Claim 24 and therefore distinguish over the cited references for at least the same reasons as Claim 24.

Independent Claim 29

Applicant's Claim 29 recites (as amended):

A method of selectively enabling a plurality of CAM blocks each for storing a predetermined range of data values, comprising:

extracting a selected portion of a search key in response to a select signal;

for each CAM block, determining whether the selected portion of the search key falls within the predetermined range of data values that are stored in the corresponding CAM block; and

generating a plurality of block enable signals in response to the determining.

As discussed above with respect to Claim 1, neither Pereira nor Kaganoi disclose or suggest "means for extracting a selected portion of a search key in response to a select signal," and therefore neither Pereira nor Kaganoi disclose or suggest "extracting a selected portion of the search key in response to a select signal," as recited in Applicant's Claim 29.

Further, as discussed above with respect to Claim 24, neither Pereira nor Kaganoi disclose or suggest "determining whether the selected portion of the search key falls within the predetermined range of data values that are stored in the corresponding CAM block," as recited in Applicant's Claim 29.

Accordingly, Applicant's Claim 29 is patentable over the cited references.

Claim 30 depends from Claim 29 and therefore distinguishes over the cited references for at least the same reasons as Claim 29.

Claim Rejections under 35 USC §103 in view of Stark

Claims 5, 14-15, and 21 are rejected under 35 USC §103(a) as being unpatentable over Pereira in view of Kaganoi and further in view of Stark (USP 6,633,953). Applicant respectfully traverses these rejections.

Claim 5 depends from independent Claim 1, and therefore distinguishes over the cited references for at least the same reasons as Claim 1.

Claims 14-15 and 21 depend from independent Claim 12, and therefore distinguish over the cited references for at least the same reasons as Claim 12.

Claim Rejections under 35 USC §103 in view of King

Claims 10 and 18 are rejected under 35 USC §103(a) as being unpatentable over Pereira in view of Kaganoi and further in view of King (USP 7,003,625). Applicant respectfully traverses these rejections.
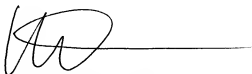
Claim 10 depends from independent Claim 1, and therefore distinguishes over the cited references for at least the same reasons as Claim 1.

Claim 18 depends from independent Claim 12, and therefore distinguishes over the cited references for at least the same reasons as Claim 12.

CONCLUSION

In light of the above remarks, it is believed that Claims 1-30 are in condition for allowance and, therefore, a Notice of Allowance of 1-30 is respectfully requested. If the Examiner's next action is other than allowance as requested, the Examiner is requested to call the undersigned at (408) 236-6646.

Respectfully submitted,

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